

# Musical Systems of Ancient Tamils

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It is said that the enharmonic pattern was given up even by Greeks themselves as early as A.D. 100.

‘The Greeks themselves in their later Hellenistic and Roman periods gave up the enharmonic genus with its extremely minute intervals.’

Plutarch (A.D. 100) writes, ‘of the three genera into which the musical scale is divided . . . . only one was cultivated by the ancients. In their treatises we find no direction given on the use of the diatonic genus or the chromatic, but of the enharmonic alone’.

Plutarch adds, ‘our contemporaries (A.D. 100) have thoroughly neglected the finest genus to which the ancients devoted all their eagerness. Most of them have lost the discernment of enharmonic intervals.’<sup>1</sup>

Tamil music has preserved all the three systems and also another by name ‘microtonal system’.

## *Caturappālai* (Microtonal System).

While discussing the quarter-tone and micro-tone music, we should not forget an important factor which concerns the position of the scales. The process of modulation is prescribed in the diatonic and chromatic nature of modes when it comes to enharmonic system i.e. the quarter-tone music, Tamil works speak about the method of singing a note one *sruti* (*alaku*) less or above the standard notes that too in *vadi-Samvadi* relationship. Therefore to make experiments on quarter-tone system in the modulation process seems to be futile. These two systems namely the quarter-tone and microtone music mainly deal with the individual character of the note more on the tetra-chord basis and the movements of the musical phrases. Mr. Herald Powers says that an investigation on the earlier works as *Sangīta Ratnākara* of the twelfth century may help us in understanding the structure of the *rāgās* and their characteristic phrases.

‘The scale theories of the thirteenth century *Sangīta Ratnākara* of *Cārāṅkadēva* are no longer comprehensible to the theorists of the sixteenth and seventeenth centuries, and are no longer applicable to the music of the later time. All the same, I feel that there is some point in enumerating the famous thirteen *rāga-lakshmas* of that work. Even though these

*lakshanas* deal with a music we no longer know about, very probably a music not even based on the common-tonicdrone principle, none the less they are dealing with melodic music, and in melodic terms'.

'I have said that the theory based essentially on the *Mēlakartā* system, with its scales, special phrases, foreign notes and so on, leaves something to be desired. The principle deficiency, it seems to me, is that very want of analysis, the lack of attention to the structure of the characteristic phrases. In this respect we may get some clues for a modern analytical approach from such older works as the *Sangīta Ratnākara*, even though its actual procedures may not be literally applicable. The concepts illustrated by the thirteen *rāgā*-Characteristics of the *Sangīta Ratnākara* seem to be based on melodic structure and not on arithmetic. The practice of borrowing and using these terms in modern lists may be a step in the right direction, but one must follow as well the principle and approach which they apparently represent.'<sup>2</sup>

It is necessary to go back to earlier works to get a clue of the structure of *rāgās*. *Bharatā*, the author of *Nāṭya Sāstrā* speaks about the *Jatis*, *Shadja grama* and *Madyama grama*. He also speaks about the value of *sruti*, etc. *Cāraṅka dēvā* who belonged to thirteenth century A.D. had advocated *Bharatā's* theory and formula in an elaborate manner in his *Sangīta Ratnākara*. He explains how the *Jatis* of *rāgās* were classified and by *murchana* (the process of modulation) *rāgās* were arrived at. He also gives the starting note and ending note and dwelling notes of the scales. It may be difficult to find out which term defines which scale, etc. *Swami Vipulananda* the author of *Yāl Nūl* in Tamil gives the following table of *Jatis*, *murchanas*, etc. according to the *Sangīta Ratnākara's*.

## JATI RAGAS

No.	Name	Amsa	Nayasa	Apanyasa	Murchana
1.	<i>Shadji</i>	SGMPD	S	G P	<i>utharayata</i>
2.	<i>Ārshabi</i>	R D N	R	R D N	<i>Sudhashadja</i>
3.	<i>Gandari</i>	SGMPN	G	S P	<i>Bouravi</i>
4.	<i>Madhyama</i>	SRMPD	M	SRMPD	<i>Kalapanata</i>
5.	<i>Panchami</i>	R P	P	R P N	<i>Kalapanata</i>
6.	<i>Daivati</i>	R D	D	R M D	<i>Abhirutagatha</i>
7.	<i>Naishadi</i>	S G N	N	S G N	<i>Abhirutagatha</i>
8.	<i>Shadjakaisiki</i>	S G P	G	S P N	—
9.	<i>Shadjodēsyava</i>	SMDN	M	S D	<i>Aswakranta</i>
10.	<i>Shadjamadyama</i>	SRGMP	S M	SRGMP	—
		DN		DN	<i>Matsareekrita</i>
11.	<i>Gandarodēsyava</i>	S M	M	S D	<i>Bouravi</i>
12.	<i>Raktgāndari</i>	SGMPN	G	G	<i>Kalapanata</i>
13.	<i>Kaisiki</i>	SGMP	GPN	SGMPDN	—
		DN			<i>Harinaswa</i>
14.	<i>Madyamodēsyava</i>	P	M	S D	<i>Souveeri</i>
15.	<i>Karmaravi</i>	RPDN	P	RPDN	<i>Suddamattiya</i>
16.	<i>Gāndara Panchami</i>	P	G	R P	<i>Harinaswa</i>
17.	<i>Andri</i>	RGPN	G	RGPN	<i>Souveeri</i>
18.	<i>Nandayanti</i>	P	G	M P	<i>Harinaswa</i>



Further to this classification, four additional methods of development on *rāgās* belonging to both *Shadjgrama* and *Madyamagrama* has been given in *Sangīta Ratnākara*. They are as follows : (1) pure form (2) with the leading note B *Kakali* (*Nishadam*) (3) with major third E (*andara gandaram*) (4) with the leading note and major third (*kakali-andaram*) we can quote here a few examples of ragas which obtained their forms by such devices and which are in practice today. *Rāgā Karaharapriya* (C D E b F G A Bb) taking the *kakali* becomes *Gouri-manohari* (C D Eb F G A B) *Rāgā Harikambodi* taking *Andaram* (E) becomes *Harikāmbodi*. *Rāgā Todi* (C Db Eb F G Ab B b) taking *kakali-andaram* becomes *Māyamālava Goula* (C D b E F G Ab B). These investigations may help us in our study of the earlier works of Tamil classics. *Sārāṅka dēvā* too mentions about Tamil music as *Tēvāra vartaṇi* and many of the raga names and forms mentioned by him are similar to the names of *paṇs* in Tamil music.

Tamil music prescribes four main modes and four *jatis* of each mode—thus totalling sixteen main modes.

*nār perum paṇṇum cāti nāṅkum*  
*pār paṭu tiraṇum paṇṇenappaṭumē*

The *paṇ* (*rāgā*) is described as four main modes, four *Jātis* and also their derivations (*tiraṇ*). The main modes were named as :—(1) *pālai yāl* (2) *kuriñci yāl* (3) *Maruta yāl* (4) *Neital yāl*.

It will be quite interesting to know that the Tamils had a five-fold division of landscapes namely (1) *Kuriñci*, the mountains, hills and hilly tracts, (2) *Mullai*, the pasture lands, half jungle and half shrubbery, (3) *marutam*, the agricultural zones, (4) *Neital*, the maritime zones, (5) *pālai*, the desert-like regions. *Tolkāppiyam* gives a full account of nature, poetry, art, instruments *rāgās*, etc. ascribed to these five-fold divisions of landscapes that were in vogue among the Tamils.<sup>3</sup>

The term *yāl* generally denotes the stringed instruments of *Vēṇa* group. Here the term is used for the main mode which primarily tuned on the instrument. The *Vaṭṭappālai* circle with the twelve astrological names allotted to each house had been furnished with two series of diatonic scales. (see Example No. 5.) In this circle each *yāl* is given its specific scales according to the following *Cūttiram* :

*tārattulaṭi tōṇṛa pālai yāl taṅkura*  
*lōru muḷait tōṇṛa kuriñci yāl nēṛē*  
*iḷi kuraliṛ rōṇṛa maruta yāl tutta*  
*miḷiyiṛ piṛakka neital yāl*<sup>4</sup>

According to the *Cūttiram* the four main modes mentioned above give the following scales :

*Maruta yāl* : This scale starts from the house of *Rishabam* where *īli* appears from *kural*. This scale is *Cempālai* of *āyappālai*—C major. The difference between the 12 semitone systems of *āyappālai* and this *vattappālai* system is that the later systems takes E and A as 3 *alakus* (*Srutis*) instead of 4 *Srutis* as the former. This had been advocated as 22 *srutis* the method of singing one *sruti* less in two notes of *vadi Samvadi* relationship.

*Kuīrñci yāl* : This mode starts from the house of *tulām* where *kural* appears from *uḷai*. This is the scale with F (*Rāgā Kalyani*). The three *alakus* go to E & B in the scale.

*Neital yāl* : This mode starts from the house of *Tanucu* where *tuttam* appears from *īli*. This is the scale with flattened B (*Rāgā Hari-kāmbōdi*). The 3 *alakus* occur in D and A of this scale.

*Pālai yāl* : This mode appears in the house of *Mēsham* where F projects from B. This scale takes C Db Eb F F Ab Bb. A scale without the dominant but with two *Madyams* F and F. The 3 *alakus* occur in notes F and Bb.

The four main modes mentioned above get four modulations which are called four *Jatis*. The terms in Tamil are : (1) *akam* (2) *puram* (3) *arukiya* (4) *perukiya*. These modulations are done on the notes C E G B of a scale. This theory very much coincides with the *Caranika dēvā's kakali, andaram formula*. It may be rather difficult to find a consensus of opinion on these formulas, because of the confusion in names which have been changing from time to time and also by terms which have more than one meaning. However by going through these processes we gain an insight into the foundations of Indian music which is the source and origin of music, present and past.

The names of the modes and their *jatis* are given below with notes and *rāgā* names.

<i>Maruta yāl</i> :	<i>paṇ name</i>	<i>Scales with 3 alakus in 2 notes</i>
<i>akanilai</i>	<i>Marutappaṇ</i>	C D E <sup>3</sup> F G A <sup>3</sup> B
<i>puranilai</i>	<i>akari</i>	C <sup>3</sup> Db Eb F <sup>3</sup> G Ab Bb
<i>Arukiyal</i>	<i>cāyavēḷarkolḷi</i>	C D <sup>3</sup> E F G A <sup>3</sup> Bb
<i>Perukiya</i>	<i>Kiṇṇaram</i>	C <sup>3</sup> Db Eb F <sup>3</sup> F Ab Bb

*Kuṛiñci yāl :*

<i>akanilai</i>	<i>Kuṛiñci paṇ</i>	C D E <sup>3</sup> F G A B <sup>3</sup>
<i>puṛanilai</i>	<i>centu</i>	C <sup>3</sup> D Eb F G <sup>3</sup> Ab Bb
<i>Arukiyal</i>	<i>Maṇṭilam</i>	C D E <sup>3</sup> F G A <sup>3</sup> B
<i>Perukiya</i>	<i>ari</i>	C Db Eb F G Ab Bb

*Neital yāl :*

<i>akanilai</i>	<i>Neital paṇ</i>	C D <sup>3</sup> E F G A <sup>3</sup> Bb
<i>puṛanilai</i>	<i>Vēlāvali</i>	C Db Eb F <sup>3</sup> F Ab Bb <sup>3</sup>
<i>arukiya</i>	<i>Sērakam</i>	C D <sup>3</sup> Eb F G <sup>3</sup> A Bb
<i>perukiya</i>	<i>Canti</i>	C Db Eb <sup>3</sup> F F Ab Bb <sup>3</sup> B

*Pālai yāl :*

<i>akanilai</i>	<i>pālaippan</i>	C Db Eb F <sup>3</sup> F Ab Bb <sup>3</sup>
<i>puṛanilai</i>	<i>Devali</i>	C Db D <sup>3</sup> E F Ab A <sup>3</sup> B
<i>Arukiyal</i>	<i>Sērkoṭikam</i>	C Db E <sup>3</sup> F F Ab Bb <sup>3</sup> B
<i>perukiya</i>	<i>nakanakam</i>	C Db D E F <sup>3</sup> G A Bb <sup>3</sup>

We find a variety of combinations in the sixteen different modes given above. The chromatic order appears in many scales as Db D, F F, Ab A, Bb B, etc. In addition to the chromatic nature, notes taking 3 *alakus* assure quarter tone nature.

*Cilappatikāram* gives a beautiful picture of *Mātavi* playing *yāl* on the four *Jatis* of *Maruta yāl*.

Piḷayā marapiṇ īrēḷ kōvaiyai  
 ulai mutar kaikkilāi iṟuvaikaṭṭi  
 inai kilāi pakai natpenṇin nāṇkin  
 icai puṇar kuṛinilai eiṭa nōkki  
 kuralvāy ilivayk kēṭṭaṇal aṇṇiyum  
 varaṇmuṇai maruṇkin aintinūm ēlinūm  
 ulai mutalākavum ulai īrākavum  
 kural mutalākavum kural īrākavum  
 akanilai marutamum puṛanilai marutamum  
 arukiya marutamum perukiya marutamum  
 nālvakai cātiyum nalam peṇa nōkki  
 mūvakai iyakkamum muraiyuḷi kaḷippi<sup>5</sup>

*Iḷaṅkō Aṭikal*, the author of *Cilappatikāram* describes the unerring tradition (*piḷayā marapu*) of two series of seven strings (the *yāl* with fourteen strings) which was tuned with the note F from the bottom to the note E in the higher octave. *Mātavi* examines the fusion of notes while tuning the instrument *inai*, *kilāi*, *pakai*, *natpu* these terms define four nature of notes namely the mating, branching, inimical and friendly



notes. They are the dominant *inai* the sub-dominant (*kīlai*) the minor 3rd and sharpened fourth (*pakai*) and the major 3rd and the leading note *Natpu* respectively. Again she examines the tuning of fourth and fifth relationship of the note (*kuralvai ilivai kēṭṭanaḷ*) by careful listening and according to rules and tradition. The notes in chromatic order *aintiṇum ēlinum* (Db D Eb E F and Db D Eb F F G respectively) were also examined. The strings were tuned from F to F and C to C *uḷai mutalākavum uḷai īrākavum kural mutalākavum kural īrākavum*. She started playing the four modulations—*akanilai marutam*, *puraḥḥilai marutam*, *arukiyaḷ marutam*, *perukiyaḷ marutam*, the four *Jatis* of *maruta yāl*. She played them on three octaves (*mūvakai iyakkamum muraḥḥiyuḷ kalippi*).

It is surprising that the quarter-tone and micro-tone of *vaṭṭappālai* and *caturappālai* music gives immense beauty to *rāgās* even while used in chromatic order which is generally felt like coercing the ear. In the fourth system of *caturappālai* the notes are used as quarter and semi-quarter tones, in some cases the note originating in one house leaps to the next house. Here are a few examples of *rāgās* in Carnatic music with such leaping notes.

C<sup>3</sup> Db — in *Rāgā Goula* Db starts from C and is sung with one *alaku* (*eka Sruti rishabam*)

A<sup>3</sup> Bb — in *Rāgā Harikāmbōdi* — The note A is used with 3 *alaks* and comes very near to Bb—interval between the two notes is one *Sruti* or even lower (*panchasruti Deivatam*)

F<sup>3</sup> — in *Rāgā varāli* the F is half *sruti* less to *Panchama*.

B<sup>3</sup> — In *Rāgā saṅkarābhavāna* the B is used less than one *sruti* to octave C.

B<sup>3</sup> Bb A<sup>3</sup> — This phrase is used in *rāgā aṭāṇā*

F E<sup>3</sup> D<sup>3</sup> — This phrase is used in *rāgā Dēvagāṇḍārī*

We can quote a number of instances of micro-tone usage in the prevailing *rāgās* of Indian music, where notes appear from the adjacent compartments. In earlier days these practices had a definite science supporting them. Later on, the minute particles of tones settled themselves into the forms of *rāgās* but the underlying grammar was slowly forgotten. Hence these micro-tonal usage came to be labelled as *gamakas* (grace notes). *Panchadāsa gamakas* (fifteen varieties of *gamakas*) are spoken about.

*Kampita* : is a large shake. The manipulation of the note is such that there is not even the remotest suggestion of the adjacent notes (for example the shake of the *ga* in *Aṭāṇā*, *Ānandabhairavi* and *Danyāsi rāgās*).

*Lina* : merging of a note softly into another note.<sup>6</sup>

The quarter-tone music is something more than the portamento, this was the view of the ancient Greek also. 'These quarter tones were not merely for decorative, portament effect, if we accept the reading of the oldest fragment of Greek music left to us. This is a mutilated scrap of papyrus showing a line or so of Euripides' Orestes, together with musical symbols, dating perhaps from 344-338 B.C. (If it is not a fact that the music is later than the text). In this the lower quarter-tone of the enharmonic pyknon is approached by leap from a tone outside the tetrachord'<sup>7</sup>

Analysis of *rāgās* on the lines of these four musical systems may be of immense help to students of music who are interested in a deep study of the science and grammar of the structure of *rāgās* in Indian Music.

#### FOOTNOTES

<sup>1</sup> STEVENSON, R., Music before the Classical Era, Macmillan, London, 1958; p. 10.

<sup>2</sup> POWERS, HARALDO, The Background of South Indian Raga System, Princeton University, 1958, p. 38.

<sup>3</sup> THANINAYAGAM, XAVIER S., Landscape and Poetry, Asia Publishing House, London, 1966; p. 75.

<sup>4</sup> *Cilappatikaram, Āiycciyar Kuravai*, Commentary, p. 449.

<sup>5</sup> Ibid., *Vēṇīrkātai*, II 31-42.

<sup>6</sup> SAMBAMURTHY, P., South Indian Music, Bk. IV, Indian Music Publishing House, Madras, 1954, p. 118.

<sup>7</sup> SMOLDON, WILLIAM, A History of Music, p. 23.

#### REFERENCES

DR. U. V. S. IYER. Edn., *Cilappatikāram*, Madras, 1968.

G. REVESZ, Introduction to the Psychology of Music, Longmans Green and Co., 1953.

D. BOYDEN. An Introduction to Music, Alfred A. Knopf, New York, 1963.

Music East and West, Indian Council for Cultural Relations, 1966.

WILLIAM L. SMOLDON. A History of Music, London, Herbert Jenkins, 1965.

HOMER ULRICH AND PAUL. A. PISKI, A History of Music and Music Style, Rubert Hart Davis, Soho Square, London, 1963.

HOWARD HARTOG, European Music in the Twentieth Century, Routledge and Kegan-Paul, London, 1957.

HAROLD S. POWERS, The Background of South Indian Raga System, Princeton University, 1958.

Journal of Indian Musicological Society, Baroda, April-June, 1972.

R. STEVENSON, Music Before the Classical Era, London, Macmillan & Co. Ltd., 1958.

XAVIER S. THANINAYAGAM, Landscape and Poetry, Asia Publishing House, London, 1966.

PROF. SAMBAMURTHY, South Indian Music, Bk. IV, Indian Music Publishing House, G.T., Madras, 1954.